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काँच धारकों से सम्बन्धित पारिभाषिक शब्दावली

(दूसरा पुनरीक्षण)

Indian Standard

GLASS CONTAINERS — GLOSSARY OF TERMS

(Second Revision)

UDC 621·798·147·033·5 : 001·4

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BUREAU OF INDIAN STANDARDS
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG
NEW DELHI 110002

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Price Group 10

Glassware Sectional Committee, CHD 010

FOREWORD

This Indian Standard (Second Revision) was adopted by the Bureau of Indian Standards, after the draft finalized by the Glassware Sectional Committee had been approved by the Chemical Division Council.

This standard was first issued in 1972 and was subsequently revised in 1982 to cover the terms not included in the first issue. In 1982 version, the terms defined in the standard were catagorized under the following four sections:

Section I	Feeding, forming, annealing and finishing;
Section II	Quality control, properties and test methods;
Section III	Types of glass, types of containers and parts of containers; and
Section IV	Defects.

The standard is being revised to put it in line with practices and recent technological developments in the industry.

Indian Standard

GLASS CONTAINERS — GLOSSARY OF TERMS

(Second Revision)

1 SCOPE

This standard defines terms relating to glass containers and their manufacture. Terms relating to closures are specifically excluded.

2 TERMINOLOGY

SECTION I

2.1 Feeding, Forming, Annealing and Finishing

2.1.1 *Acid Embossing*

Obscuring or marking the surface of glass with hydrofluoric acid or its salts.

2.1.2 *Acid Etching*

(*see* also **2.1.49**)

2.1.3 *Acid Frosting*

Producing a matt surface with hydrofluoric acid or its salts.

2.1.4 *Annealing*

The slow controlled cooling of containers, so that thermal stresses and strains within the container are gradually relieved. The amount of residual stress, known as temper, is assessed by optical comparison with a number of standard strain discs or with the help of polarimeter.

2.1.5 *Automatic Feeding*

The automatic production of gobs to be fed to the forming machine.

2.1.6 *Automatic Forming*

Forming gobs into containers of the desired size and shape by automatic means.

2.1.7 *Badging*

Marking containers to indicate capacity, or ownership or for other purposes, for example, trade-marks.

2.1.8 *Baffle*

A mould part used to close the delivery or baffle hole in a blank mould.

2.1.9 *Baffle Hole*

A hole through which a mould is filled.

2.1.10 *Baffle Plate*

The part of a blank mould which seals the baffle hole.

2.1.11 *Blank*

i) Any glass article on which subsequent processing is required.

ii) A preliminary shape from which a final shape is further formed through subsequent processes. Also known as Parison. The mould producing parison is also sometimes referred to as "Blank".

2.1.12 *Blank Mould*

(*see* also **2.1.11**)

2.1.13 *Blank Parison*

(*see* also **2.1.11**)

2.1.14 *Block Mould*

A one-piece mould.

2.1.15 *Blocking*

The re-processing of moulds to remove surface imperfections or to change lettering.

2.1.16 *Blow-and Blow Process*

A process of forming hollow ware in which both the preliminary and final shapes are formed by air pressure.

2.1.17 *Blow Back*

(*see* also **2.1.34**)

2.1.18 *Blow Head*

Part of a forming machine, serving to introduce air under pressure to blow hollow glass articles.

2.1.19 *Blow Mould Bottom Plate*

The part of the blow mould equipment which forms the base of the container.

2.1.20 *Blow Mould Finish Mould*

The mould in which a glass article is blown to its final shape.

2.1.21 *Blowing*

The application of pressurized air internally to a hot glass pre-form.

2.1.22 *Bush*

(*see* also **2.1.109**)

2.1.23 *Bushing*

A liner in the orifice of a feeder delivering glass gobs to a forming machine (*see* also **2.1.109**).

2.1.24 *Carry-in*

(*see* also **2.1.153**)

2.1.25 *Carrying in*

(*see* also **2.1.153**)

2.1.26 *Chain Belt*

(*see* also **2.1.94**)

2.1.27 *Change Parts*

Machine parts, such as worn feeds, star wheels, guides, etc, which are changed to allow different shapes and size of containers to be made.

2.1.28 *Chute*

(*see* aiso **2.1.162**)

2.1.29 *Coating Hood*

A hood enclosing metal-containing vapours through which hot bottles are passed.

2.1.30 *Cold-End Coating*

A treatment applied to the external surface of containers at the lehr-end by spraying them from above with a dilute solution of a water soluble organic substance. This treatment gives lubricity to the surface, thus reducing damage by friction and also maintains the effectiveness of the hot-end coating.

2.1.31 *Conditioning*

Adjusting the temperature and viscosity characteristics of the molten glass to those required for forming.

2.1.32 *Conditioning Zone Equalizing Section*

That part of the tank furnace where the glass is conditioned, usually in the forehearth.

2.1.33 *Continuous Recirculation Lehr*

A lehr in which the atmosphere is continuously re-circulated.

2.1.34 *Counter Blow, Blow Back*

The blowing out of the parison in the blow-and-blow process.

2.1.35 *Dead Plate, Dead Plate Buck*

Flat sheets, usually metal, bridging gaps between conveyors or between conveyor and machine.

2.1.36 *Deflector Chute Delivery*

The end part of the gob delivery system which deflects the gob into the selected mould.

2.1.37 *Differential*

The device which controls the movements of the plunger and shears.

2.1.38 *Distribution*

Directing gobs of glass to separate forming sections of a forming machine.

2.1.39 *Dope*

An industrial term for lubricant (*see* also **2.1.98**).

2.1.40 *Doping*

(*see* also **2.1.148**)

2.1.41 *Double-Cavity Mould*

(*see* also **2.1.47**)

2.1.42 *Double-Cavity Process*

(*see* also **2.1.48**)

2.1.43 *Double-Gob Preccss*

(*see* also **2.1.48**)

2.1.44 *Double Gobbing*

(*see* also **2.1.48**)

2.1.45 *Drop Guide Steadier*

A small metal arm, situated just below the shears, which steadies the gob-sometimes slightly deflected by the lower shear-blade, so that it falls directly into the drop-guide tube or into the scoop.

2.1.46 *Drop Guide Tuber Guide Funnel*

A short metal tube place between the shear blades and the scoop to direct or guide the gob into the scoop.

2.1.47 *Dual-Cavity Mould, Double-Cavity Mould, Double-Gob Mould*

A mould having two cavities for the simultaneous fabrication of two containers.

2.1.48 *Dual-Cavity Process, Double-Cavity Process, Double-Gob Process, Double-Gobbing*

Any glass forming process which uses two charges of glass and forms them simultaneously.

2.1.49 *Etching, Acid Etching*

Treating the surface with hydrofluoric acid or its salts, generally for marking or decoration.

2.1.50 *Feeder*

(*see* also **2.1.57**)

2.1.51 *Feeder Boot*

(*see* also **2.1.59**)

2.1.52 *Feeder Bowl*

(*see* also **2.1.59**)

2.1.53 *Feeder Channel Forehearth*

A refractory trough which delivers molten glass to the feeder mechanism.

2.1.54 *Feeder Connection, Feeder Opening Letter Box*

a) The opening or surrounding blocks in a furnace wall to receive the channel leading to the feeder mechanism.
b) The opening in a furnace wall through which glass flows into the forehearth.

2.1.55 *Feeder-Gate, Feeder Plug Stopper, Gate, Shut Off Gate, Tweel Block*

A piece of refractory material lowered into the feeder channel to stop or adjust the flow of glass.

2.1.56 *Feeder Heel*

(*see* also **2.1.65**)

2.1.57 *Feeder Mechanism*

A device for delivering gobs of glass to the forming machine via the scoop, trough and deflector.

2.1.58 *Feeder Needle*

(*see* also **2.1.62**)

2.1.59 *Feeder Nose, Feeder Boot, Feeder Bowl, Feeder Spout, Nose*

A refractory piece of special shape, containing the orifice forming the delivery end of the feeder mechanism (*see* also **2.1.136**).

2.1.60 *Feeder Opening*

(*see* also **2.1.54**)

2.1.61 *Feeder Plug*

(*see* also **2.1.55**)

2.1.62 *Feeder Plunger, Feeder Needle*

A reciprocating refractory plunger above a feeder orifice.

2.1.63 *Feeder Process*

(*see* also **2.1.86**)

2.1.64 *Feeder Sleeve*

(*see* also **2.1.125**)

2.1.65 *Feeder Well Block, Feeder Heel*

A specially shaped refractory block, connecting the feeder channel with thefurnace which permits a greater depth of skimming.

2.1.66 *Final Blow*

The last puff of air which produces the final shape of the article.

2.1.67 *Finish Mould*

(*see* also **2.1.106**)

2.1.68 *Fire Finish*

A method of improving the sealing surface of a container by heating in a flame.

2.1.69 *Fire Finished, Fire Polished*

Glass which has been surface polished by heating, for example, in a flame.

2.1.70 *Fire Polished*

(*see* also **2.1.69**)

2.1.71 *Fired on*

Enamel devices, labels or markings which are permanently fixed to the surface of the container by heat treatment.

2.1.72 *First Blow*

(*see* also **2.1.119**)

2.1.73 *First Puff*

(*see* also **2.1.119**)

2.1.74 *Flow Block*

(*see* also **2.1.136**)

2.1.75 *Flow Machine*

A machine which receives glass flowing under its own weight from a feeder mechanism.

2.1.76 *Flow Process*

(*see* also **2.1.86**)

2.1.77 *Forming*

The shaping of hot glass.

2.1.78 *Forming Machine, Forming Unit*

A machine which forms glass into a desired shape.

2.1.79 *Frosted*

A surface treated to scatter light or to simulate frost.

2.1.80 *Gate*

(*see* also **2.1.55**)

2.1.81 *Geneva Mechanism*

A mechanical device for driving rotating machines in stages, providing alternating periods of rapid acceleration and decelaration.

2.1.82 *Glass Blowing*

The shaping of hot glass by air pressure applied internally.

2.1.83 *Gob Chute*

(*see* also **2.1.162**)

2.1.84 *Gob Distributors*

(*see* also **2.1.128**)

2.1.85 *Gob Drop*

A portion of hot glass delivered by a feeder mechanism.

2.1.86 *Gob Process, Feeder Process, Flow Process, Gravity Process*

A process for making hollow ware in which glass is delivered by an automatic feeder mechanism in measured portions at the correct viscosity to a forming machine.

2.1.87 *Hot End*

a) That part of the glass making process between the feeder channel and the lehr entrance.

b) Those manufacturing operations concerned with hot glass, that is, melting, forming and annealing.

2.1.88 *Hot-end Coating*

A treatment applied to the external surface of containers at the hot end of the lehr, that is, as they leave the machine conveyor. The containers are passed through a cloud of vapour concentrated in a hood. This treatment improves the mechanical properties of the outer surface.

2.1.89 *Hot Mould (Process)*

The process of forming glassware in hot uncoated moulds.

2.1.90 *Hot Working, Hot Forming*

The working or forming of hot glass into its final shape.

2.1.91 *Individual Section Machine, IS Machine*

A container-making machine consisting of individual sections.

2.1.92 *Leer*

(*see* also **2.1.93**)

2.1.93 *Lehr, Leer, Tunnel Lehr*

A long, heated tunnel through which glassware is moved at a controlled rate for annealing.

2.1.94 *Lehr Belt, Chain Belt, Wire Belt*

The metal-mesh conveyor belt which carries ware through the lehr.

2.1.95 *Lehr End*

The exit, or cold end of the lehr.

2.1.96 *Lehr Loader*

(*see* also **2.1.137**)

2.1.97 *Lettering on Bottom*

Numbers or letters on the external base of a container to indicate the mould number or the trade-mark.

2.1.98 *Lubricant, Dope, Mould Lubricant*

A substance applied to metal surfaces which would come into contact with hot glass during the forming process.

2.1.99 *Lynch Machine*

A container-making machine consisting of two intermittently contra-rotating tables.

2.1.100 *Machine Speed*

The number of gobs cut per minute.

2.1.101 *Mould*

A former, usually made of cast iron, in which glass is shaped.

2.1.102 *Mould Blowing*

Blowing glass into a mould to form its final shape.

2.1.103 *Mould Lubricant*

(*see* also **2.1.98**)

2.1.104 *Muffle Lehr*

A lehr in which the ware is protected from direct heating by a refractory lining.

2.1.105 *Neck Mould*

(*see* also **2.1.106**)

2.1.106 *Neck Ring, Neck Mould, Finish Mould, Ring Mould*

A metal mould part used to form the finish of a hollow glass article.

2.1.107 *Needle*

(*see* also **2.1.116**)

2.1.108 *Orifice*

An opening through which glass flows; in a feeder mechanism the term refers to the opening formed by an orifice ring or bush in the bottom of the spout.

2.1.109 *Orifice Ring, Bush Bushing*

The ring which forms the hole through which glass flows in the feeder process (*see* also **2.1.23**).

2.1.110 *Owens Process*

A bottle making process in which the blank or parison mould is filled by vacuum.

2.1.111 *Parison*

(*see* also **2.1.11**)

2.1.112 *Parion, Blank Mould, Parison Mould, Blank Turnover*

The metal mould which first shapes the glass in the manufacture of hollow ware.

2.1.113 *Parison Transfer*

(*see* also **2.1.156**)

2.1.114 *Plug, Plunger, Tip, Plunger Tip*

The reciprocating metal part which a blank mould, forms the initial cavity for subsequent blowing.

2.1.115 *Plunger*

(*see* also **2.1.114**)

2.1.116 *Plunger Needle*

The vertical, reciprocating refractory part of a feeder mechanism which alternately forces the glass through the orifice and pulls it up after shearing.

2.1.117 *Plunger Tip*

(*see* also **2.1.114**)

2.1.118 *Pot Spout*

A channel block connecting the working end of a tank furnace with rendering pot.

2.1.119 *Pre-blowing, First Blow, First Puff, Puffing*

The first injection of air in the blow-and-blow process.

2.1.120 *Press-and-Blow Process*

A process of container manufacture in which the finish and parison are pressed and the parison is then blown to form the final shape.

2.1.121 *Puff*

To blow a small amount of air into a mould.

2.1.122 *Puffing*

(*see* also **2.1.119**)

2.1.123 *Re-heat, Re-heating*

When heat from the body of the glass is radiated to the outer surface of the article whilst it is still in the mould and after the outer surface has initially been 'chilled' by the mould surface.

2.1.124 *Re-heating*

(*see* also **2.1.123**)

2.1.125 *Revolving Sleeve, Revolving Tube, Feeder Sleeve, Feeder Tube*

A revolving refractory tube concentric with and surrounding the feeder plunger.

2.1.126 *Ring Mould*

(*see* also **2.1.106**)

2.1.127 *Sand-Blasting*

Producing a matt surface on glass by projecting a jet of small abrasive particles onto the surface at high velocity.

2.1.128 *Scoop, Gob Distributor*

The part of the gob delivery system between the feeder mechanism and the trough which directs the gob to the correct section of the forming machine.

2.1.129 *Screen Printing*

The application of colour through a screen mesh to the surface to be decorated.

2.1.130 *Settle Blow, Blowdown*

Forcing glass into a finish or ring mould by air-pressure in the blow-and-blow process.

2.1.131 *Shears*

A pair of blades at the outlet to the feeder mechanism which cut the hot glass to produce the gob of required size.

2.1.132 *Silkscreen Process*

A decorating process in which a design is printed on glass through a silk mesh or similar screen.

2.1.133 *Single-Gob Feeding, Single-Gob Process*

A glass-forming process in which one gob of glass at a time is supplied to the forming machine.

2.1.134 *Single-Gobbing*

(*see* also **2.1.133**)

2.1.135 *Shut-off Gate*

(*see* also **2.1.55**)

2.1.136 *Spout, Flow Block (Owens Machine)*

A refractory block at the end of the feeder channel leading to the forming machine (*see* also **2.1.59**).

2.1.137 *Stacker, Lehr Loader*

A device for transferring glass articles on the lehr belt at the lehr entrance.

2.1.138 *Steadier*

A colloquialism for drop guide.

2.1.139 *Stopper*

(*see* also **2.1.55**)

2.1.140 *Striking*

Development of colour during cooling or re-heating.

2.1.141 *Suck-and-Blow Process, Vacuum-and-Blow Process*

A process in which glass is sucked into a parison mould and then blown to its final shape in a blow mould.

2.1.142 *Suction Machine*

A forming unit used in the suction process.

2.1.143 *Suction Mould*

A mould into which glass is introduced by vacuum.

2.1.144 *Suction Process, Suction Feeding*

Any process in which glass is gathered by vacuum into a mould.

2.1.145 *Sulphur Treatment*

(*see* also **2.1.146**)

2.1.146 *Sulphuring, Sulphur Treatment*

A treatment of the internal surface of containers, often applied at the lehr entrance by dropping a tablet of a volatile sulphate or chloride. This treatment improves the chemical properties of the internal surface.

2.1.147 *Surface Treatment*

A treatment applied to container surfaces after forming in order to improve or maintain the mechanical and/or chemical properties (*see* also **2.1.30, 2.1.88** and **2.1.146**).

2.1.148 *Swabbing Doping*

Applying lubricant to a mould.

2.1.149 *Take-in*

(*see* also **2.1.153**)

2.1.150 *Take-out, Take-out Device, Take-out Mechanism*

A mechanical device for removing a finished article from a glass forming unit.

2.1.151 *Take-out Device*

(*see* also **2.1.150**)

2.1.152 *Take-out Mechanism*

(*see* also **2.1.150**)

2.1.153 *Taking-in, Take-in, Carry-in, Carrying-in*

The manual transfer of finished articles to a lehr.

2.1.154 *Temper*

- i) The amount of residual stress in a container after annealing. (*see* also **2.1.4**)
- ii) To cool glass rapidly around its softening point under rigorous control, so that its mechanical strength and thermal endurance improves substantially.

2.1.155 *Transfer Decoration*

A decorating process in which a design is applied to glass by means of a ceramic label (also called decal).

2.1.156 *Transfer of Blank, Parison Transfer*

The movement, or the device, which moves the parison into the final shaping mould.

2.1.157 *Triple-Cavity Mould, Triple-Gob Mould*

A mould with three cavities to receive and simultaneously fabricate three glass articles.

2.1.158 *Triple-Cavity Process, Triple-Gob Process, Triple-Gobbing*

Any glass forming process which uses three charges of glass and forms them simultaneously.

2.1.159 *Triple-Gob Mould*

(*see* also **2.1.157**)

2.1.160 *Triple-Gob Process*

(*see* also **2.1.158**)

2.1.161 *Triple-Gobbing*

(*see* also **2.1.158**)

2.1.162 *Trough, Gob Chute*

That section of the gob delivery system which carries the gob from the scoop to the deflector.

2.1.163 *Turnover*

(*see* also **2.1.112**)

2.1.164 *Tweel Block*

(*see* also **2.1.55**)

2.1.165 *Uprighter*

A device for collecting bottles coming from chutes and standing them upright on a conveyor.

2.1.166 *Vacuum-and-Blow Process*

(*see* also **2.1.141**)

2.1.167 *Vacuum Blowing*

The process of forming an article by suction.

2.1.168 *Vent*

A small hole drilled through the wall of a blow mould to allow air trapped between the mould and the glass to escape during final blowing.

2.1.169 *Ware During Annealing*

Finished glassware in transit through the lehr.

2.1.170 *Ware Pusher*

A device for pushing a row of containers into the lehr.

2.1.171 *Wire Belt*

(*see* also **2.1.94**)

SECTION II

2.2 Quality Control, Properties and Test Methods

a) Quality Control

2.2.1 *Acceptable Quality Level (AQL)*

A statistically determined level of acceptance of failures in a batch of containers.

2.2.2 *Acceptance Sampling Scheme*

A classification of the various defects into groups, each of which is assigned an AQL.

2.2.3 *Annealing Check*

A polariscopic examination on the quality of annealing, made by taking samples from various parts of the lehr, especially the end rows.

2.2.4 *Automatic Bore Gauging Machine*

A machine which automatically measures bore dimensions. It can check maximum and minimum bore simultaneously.

2.2.5 *Bore Gauge*

There are several variations, all of which are round in cross-section. The simplest type is used when only one dimension of the container bore is to be measured, for example, a minimum through-bore on a bottle, or it can be made with two diameters to measure maximum and minimum bore.

2.2.6 *Bulge-Gauge*

A special type of fork gauge where the length is determined by the length of the container over which the gauge is intended to be effective. The effective depth of the fork is determined by the degree of bulge which can be tolerated on a flat surface of a body usually the label surface.

2.2.7 *Capacity Check*

An important specification check which is made by weighing the container empty and then when filled with water at 20°C and applying a conversion factor to convert grams to millilitres.

2.2.8 *Control Limit*

An internal 'specification limit' applied by the quality control department, usually more severe than the specification limit.

2.2.9 *Critical Defect*

Defects which would render a container totally unfit for use or would result in hazardous or unsafe condition for the individual using or maintaining the item.

2.2.10 *Dimensional Check*

A check on the dimensions made by using the appropriate gauge or, when gauging is difficult or not sufficiently accurate, by using a profile projector or an accurate measuring instrument such as a micrometer or calipers.

2.2.11 *Double-Fork Gauge*

An instrument shaped like the letter 'H' which can be used, for example, to gauge a maximum dimension with one of the forks and a minimum dimension with the other fork.

2.2.12 *Fork Gauge*

A metal plate with an opening, the dimension of which corresponds to the diameter to be gauged.

2.2.13 *Go-No-Go*

Instruments used to determine whether dimensions are within tolerances.

2.2.14 *Height Gauge*

Usually consists of a base plate which supports one or two vertical pillars and a horizontal cross-piece. The distance between the cross piece and base plate is equal to the height dimension to be gauged.

2.2.15 *Homogeneity*

(*see* also **2.4**)

2.2.16 *In-line Sorting*

When the containers are marshalled into a single line (a) to allow the operator to examine them as they pass by this station, or (b) to permit automatic inspection.

2.2.17 *Internal Pressure Resistance*

(*see* also **2.2.97**)

2.2.18 *Limit Sample*

A sample bottle which exhibits the defects to the degree which has been agreed as acceptable.

2.2.19 *Major Defects*

Defects which may cause failure in filling or usage for example, from split bodies, excessively thin glass or faulty sealing surfaces.

2.2.20 *Maximum and Minimum Single Fork Gauge*

An instrument used to gauge both dimensions in one operation, in which case a single fork is used with part of the fork cut away so that one part corresponds to the maximum dimension and one part to the minimum.

2.2.21 *Minor Defects*

Usually surface blemishes and appearance faults which do not affect the performance of the container in any way, but which could be considered objectionable.

2.2.22 *Mould-War-Variation*

The variation in dimensions normally associated with wear of the mould caused by the cleaning of deposits from the mould surface and consequent removal of mould metal.

2.2.23 *Normal Forming Variation*

The tolerances or dimensions associated with the capability of a glass-forming machine.

2.2.24 *Packed-Ware Inspection*

An inspection of ware which has already been packed by taking appropriate samples.

2.2.25 *Profile Projector*

An instrument in which a profile of the container is projected on a screen, the glass dimensions are then checked against graduations marked on the screen or against profile transparencies placed in front of the screen, or by micrometers attached to the projector stage.

2.2.26 *Profile Transparency*

A clear transparent film on which the profile of a container, showing the critical dimensions, is traced for use on the profile projector.

2.2.27 *Quality Control Clearance*

When the examination of the sample satisfies the inspection data for all groups of defect or dimensional checks.

2.2.28 *Ring Gauge*

A circular metal ring, the diameter of the hole in the centre of which is equal to the dimension to be gauged.

2.2.29 *Sample Size (Normal)*

Sample size needed to ascertain the quality of a batch of containers.

2.2.30 *Shadowgraph*

(*see* **2.2.25**)

2.2.31 *Single Fork Gauge*

Often used to control the amount of sinking which is permissible on the flat surface of the body. The gauge consists of a plate long enough to span the length of the part of the container over which the gauge is intended to be effective (usually over a labelling area) and a spike to gauge the depth of sinking.

2.2.32 *Specification Limit*

A precise and unambiguous statement of the limit to be applied to dimensional, capacity, defects and other tolerances to be complied with by the container (*see* **2.2.1**).

2.2.33 *Thermal Shock*

(*see* also **2.2.145**)

2.2.34 *Warehouse Audit*

A special statistical examination, not normally done on a routine basis.

2.2.35 *Window Gauge*

A metal plate with a square or rectangular hole intended to gauge either the overall maximum dimensions of the major and minor areas or the overall minimum dimensions of the major and minor areas of non-round containers.

2.2.36 *Verticality Gauge*

The simplest form comprises a base plate fitted with a V-block and a vertical pillar carrying horizontal scrib or dial gauge which is adjustable with regard to height and length.

2.2.37 *Vertical Load Test*

A measurement of the vertical load strength (*see* also **2.2.159**).

2.2.38 *Zero Acceptance Level*

No defect should be present in the sample.

b) Properties and Test Methods

2.2.39 *Abbe Value Constringence*

The reciprocal dispersive power $\frac{nD - 1}{nF - nC}$

which is usually denoted by the symbol V or v.

nD = refractive index measured using yellow light from the sodium spectrum (589·3 m),

nF = refractive index measured using blue light from the hydrogen spectrum (486·1 m),

nC = refractive index measured using red light from the hydrogen spectrum (656·3 m).

2.2.40 *Accelerated Weathering Test*

(*see* also **2.4.278**)

2.2.41 *Acid Resistance*

The property of resisting attack, primarily of the internal surfaces, by acidic solutions.

2.2.42 *Acid Resistance Test*

A method of measuring the resistance of glass to attack by 6 N hydrochloric acid at 100°C for 3 hours.

2.2.43 *Ageing*

(*see* also **2.4.278**)

2.2.44 *Alkali Resistance*

The property of resisting attack, primarily of the internal surfaces, alkaline solutions.

2.2.45 *Alkali Resistance Test*

(*see* also **2.2.111**)

2.2.46 *Annealing Point (A. P.), Upper Annealing Temperature, 13·0 Temperature*

The temperature at which the viscosity of the glass is $10^{13 \cdot 0}$ poise and at which internal stress is substantially relieved in a short time.

2.2.47 *Annealing Range*

The temperature range within which glass may be annealed at a commercially reasonable rate. The range is between the upper and lower annealing temperatures at which the viscosities are $10^{13 \cdot 0}$ and $10^{14 \cdot 5}$ poise, respectively.

2.2.48 *Annealing Stress*

(*see* also **2.2.119**)

2.2.49 *A. P.*

(*see* also **2.2.46**)

2.2.50 *Autoclave Test*

(*see* also **2.2.162**)

2.2.51 *Ball Impact Test*

A method for testing the impact resistance of a container using a swinging meal ball.

2.2.52 *Boiling Test*

A method for measuring the hydrolytic resistance of the internal surfaces of a container by immersing the filled container in a bath of boiling water for a specified time.

2.2.53 *Bottle Capacity*

(*see* also **2.2.59**)

2.2.54 *Brimful Capacity*

The capacity of a container when filled to the top of the rim.

2.2.55 *Bubble Analysis*

The analysis of the gases contained in bubbles or blisters to locate their origin.

2.2.56 *Bulk Test*

A test in which the capacity of glass containers is determined, not with reference to a single container but on the average of a representative sample, usually not less than 12.

2.2.57 *Bursting Pressure*

(*see* also **2.2.97**)

2.2.58 *Bursting Strength*

(*see* also **2.2.97**)

2.2.59 *Capacity, Bottle Capacity*

The volume of water at a specified temperature which a container will hold when filled to the specified level.

2.2.60 *Chemical Durability, Chemical Resistance*

The resistance of glass to attack from acid, neutral or alkaline media.

2.2.61 *Chemical Resistance*

(*see* also **2.2.60**)

2.2.62 *Coefficient of Cubical Thermal Expansion*

The change in unit volume of glass per degree rise in temperature over a specified temperature range.

2.2.63 *Coefficient of Linear Thermal Expansion*

The change in unit length per degree rise in temperature over a specified temperature range.

2.2.64 *Compression*

Application of a compressional force.

2.2.65 *Compressive Strength*

(*see* also **2.2.159**)

2.2.66 *Cooling Rate*

(*see* also **2.2.123**)

2.2.67 *Crushing Strength*

The applied compressive force per unit area which causes collapse when applied uniformly across a test piece of uniform cross-sections.

2.2.68 *Crystallization*

(*see* also **2.2.72**)

2.2.69 *Dart Impact Test*

A method for testing the impact resistance of a container to a point source.

2.2.70 *Deformation Point, Dilatometric Softening Point, Mg*

The highest temperature which can be reached in a standard expansion dilatometer before the glass begins to deform under the pressure of the push-rod. It is the point at which viscous flow exactly counteracts thermal expansion and corresponds to the viscosity in the range 10^{11} to 10^{12} poise (10^{10} to 10^{11} Ns/m^2).

2.2.71 *Density, Specific Mass, Specific Gravity*

The ratio of mass to volume.

2.2.72 *Devitrification Crystallization*

The development of crystallinity in glass most often followed by progressive loss of transparency.

2.2.73 *Dilatometric Softening Point*

(*see* also **2.2.70**)

2.2.74 *Dispersion*

The variation of refractive index with wavelength of light.

2.2.75 *Dispersive Power*

A measure of the change of refractive index with wavelength. It is a pure number defined by the ratio $\frac{nF - nC}{nD - 1}$

where

nF = refractive index measured using blue light from the hydrogen spectrum (486·1 m),

nC = refractive index measured using red light from the hydrogen spectrum (656·3 m), and

nD = refractive index measured using yellow light from the sodium spectrum (589·3 m).

2.2.76 *Durability*

(*see* also **2.2.60**)

2.2.77 *Expansion Space*

(*see* also **2.2.158**)

2.2.78 *Excract, Leachate, Leaching Product, Reaction Product*

The solution, or the materials in solution, at the completion of a chemical durability test.

2.2.79 *Fill Point*

(*see* also **2.2.80**)

2.2.80 *Filling Level*

The level to which a container is filled in accordance with its specification.

2.2.81 *Flow Point*

The temperature at which the viscosity of glass is 10^5 poise (10^4 Ns/m^2).

2.2.82 *14·5 Temperature*

(*see* also **2.2.104**)

2.2.83 *Friction Coefficient, Friction Factor*

Ratio of the force resisting relative movement of two surfaces in the plane of contact to the applied load normal to the plane of contacts.

2.2.84 *Friction Factor*

(*see* also **2.2.83**)

2.2.85 *Glass Composition*

The constituents of a glass usually expressed as mass percent of the relevant oxide.

2.2.86 *Gob Point, Gob Temperature, Parison Temperature*

The temperature at which the glass has a viscosity of 10^3 poise. It is the temperature at which the gob normally leaves the feeder mechanism.

2.2.87 *Grain Test*

A method for measuring the chemical, usually hydrolytic, durability of glass in which the sample is crushed to produce fragments between two specified sieve sizes.

2.2.88 *Hardness Test*

(*see* also **2.2.95**)

2.2.89 *Head Space*

(*see* also **2.2.158**)

2.2.90 *Horizontal Load Strength*

The lateral load which the body of a container can withstand when tested under specified conditions.

2.2.91 *Hydrolytic Glass*

A classification of glass according to its resistance to attack by water.

2.2.92 *Hydrolytic Resistance*

The resistance of glass to attack by water.

2.2.93 *Impact Strength*

The property of resisting breakage by a localized impaction.

2.2.94 *Impact Test*

A method for measuring the impact or mechanical strength of a container.

2.2.95 *Indentation Test, Hardness Test*

A test in which a diamond point is applied to a glass surface under increasing load until it penetrates the surface.

2.2.96 *Internal Pressure*

(*see* also **2.2.97**)

2.2.97 *Internal Pressure Resistance*

The internal pressure at which a glass container breaks when tested hydraulically.

2.2.98 *Leachate*

(*see* also **2.2.78**)

2.2.99 *Leaching*

The releasing of glass constituents from a glass surface by liquid attack.

2.2.100 *Leaching Product*

(*see* also **2.2.78**)

2.2.101 *Liquidus Temperature*

The maximum temperature at which equilibrium exists between the molten glass and its primary crystalline phase or phases.

2.2.102 *Littleton Softening Point, 7·6 Temperature, Softening Point*

A temperature reference point at which a fibre of glass extends at a given rate which corresponds to a vicosity of $10^{7\cdot6}$ poise ($10^{6\cdot6}$ Ns/m^2).

2.2.103 *Lower Annealing Point*

(*see* also **2.2.104**)

2.2.104 *Lower Annealing Temperature, Lower Annealing Point, Strain Point, 14·5 Temperature. St. P.*

The temperature at which the viscosity of glass is $10^{14\cdot5}$ poise ($10^{13\cdot5}$ Ns/m^2). At this temperature internal stress in the glass is substantially relieved in about 4 hours.

2.2.105 *Lower Temperature of Crystallization*

The lowest temperature at which a glass can crystallize or devitrify.

2.2.106 *Maximum Capacity*

The capacity at the upper tolerance limit when filled to the filling level or filled up to the brim.

2.2.107 *Mechanical Strength*

The resistance of a container to external forces assessed in various ways, such as vertical load strength, horizontal load strength and impact strength, depending upon the type of forces expected in service.

2.2.108 *Melting Temperature*

The range of temperatures within which melting takes place at a commercially desirable rate and at which the glass generally has a viscosity of $10^{2\cdot5}$ poise.

2.2.109 *Mg*

(*see* also **2.2.70**)

2.2.110 *Minimum Capacity*

The capacity at the lower tolerance limit when filled to the filling level or filled up to the brim.

2.2.111 *Mixed Alkali Test, Alkali Resistance Test*

A standardized test procedure in which the resistance of glass to a mixture of sodium hydroxide and sodium carbonate solutions is measured.

2.2.112 *Modulus of Elasticity*

For a material complying with Hooke's law, the law, the ratio of stress to corresponding strain. Usually expressed as force per unit area and denoted by the symbol E.

2.2.113 *Nominal Capacity*

The volume which a container should hold when filled to the appropriate filling level at the specified temperature.

2.2.114 *Ovality*

The difference between the maximum and minimum diameter when measured in the same horizontal plane.

2.2.115 *Parison Temperature*

(*see* also **2.2.86**)

2.2.116 *Poisson's Ratio*

The ratio of lateral to logitudinal strain under unidirectional stress.

2.2.117 *Reaction Product*

(*see* also **2.2.78**)

2.2.118 *Refractive Index*

The value of n given by $n = \frac{\sin i}{\sin r}$

where

i is the angle of incidence, and

r is the angle of refraction of a light ray at the interface between two transparent media.

2.2.119 *Residual Stress Temper*

The stress remaining in the container after being annealed.

2.2.120 *Ring Section*

A transverse section cut from a glass container for visual examination.

2.2.121 *Scratch Resistance, Scratch Strength*

The power of glass surface to withstand scratches.

2.2.122 *Scratch Strength*

(*see* also **2.2.121**)

2.2.123 *Setting Rate, Cooling Rate*

A comparative term referring to the time required for a glass surface to cool through the working range. A short time implies a fast setting rate and a long time a slow setting rate.

2.2.124 7·6 *Temperature*

(*see* also **2.2.102**)

2.2.125 *Sink Point*

(*see* also **2.2.127**)

2.2.126 *Sink-in-Point*

(*see* also **2.2.127**)

2.2.127 *Sinking Point, Sink Point, Sink-in-Point*

The temperature at which a rod of 80 percent Pt, 20 percent Rh, 200 mm long, 0·5 mm in diameter and weighing 0·746 g sinks into glass to a depth of 20 mm in 120 seconds. This corresponds to a viscosity of about 10^4 poise (10^3 Ns/m^2).

2.2.128 *Sliding Resistance, Slip (Ping) Resistance*

A measure of the lubricity of an external surface achieved by cold-end and/or hot-end coating.

2.2.129 *Softening Point*

(*see* also **2.2.102**)

2.2.130 *Softening Range*

The interval between the transformation point (10^{11} poise) and the dilatometric softening point (10^{12} poise).

2.2.131 *Solarization*

The change of the light transmission propertiies of glass as a result of exposure to sunlight or other radiation in or near the visible spectrum.

2.2.132 *Specfic Gravity*

(*see* also **2.2.71**)

2.2.133 *Specific Mass*

(*see* also **2.2.71**)

2.2.134 *Stability*

a) Resistance to toppling;

b) Resistance to devitrification; and

c) Chemical durability, that is, resistance to weathering.

2.2.135 *Sticking Temperature*

The temperature above which two surfaces, brought into contact, cannot be separated again without damage.

2.2.136 *Strain*

Elastic deformation due to stress.

2.2.137 *Strain Disc*

A glass disc of calibrated birefringence used as a comparative measure of the degree of annealing of glass.

2.2.138 *St. p*

(*see* also **2.2.104**)

2.2.139 *Strain Point*

(*see* also **2.2.104**)

2.2.140 *Stress*

Any condition of tension or compression existing within glass, particularly due to incomplete annealing, temperature gradient or inhomogeneity.

2.2.121 *Tension*

Application of a stretching force.

2.2.122 *Tg*

(*see* also **2.2.150**)

2.2.123 *Thermal Endurance*

The relative ability of glassware to withstand thermal shock.

2.2.144 *Thermal Resistance*

The resistance of glass to heat.

2.2.145 *Thermal Shock*

A sudden change in temperature applied to containers.

2.2.146 *Thermal Shock Resistance*

The actual temperature change or thermal shock, measured in °C, which a container can withstand without breaking.

2.2.147 *Thermal Stress*

Stress induced in a body during a heating or cooling cycle by the existence of a temperature gradient within that body.

2.2.148 *13·0 Temperature*

(*see* also **2.2.156**)

2.2.149 *13·4 Temperature*

(*see* also **2.2.150**)

2.2.150 *Transformation Point, Transformation Temperature, Tg., 13·4 Temperature*

a) The temperature at which the coefficient of thermal expansion (linear) of most annealed glasses shows a distinct increase over its value at lower temperatures. This temperature is near to the upper annealing temperature (10^{13} poise).

b) In the measurement of the coefficient of linear thermal expansion of a glass there may be two temperatures, Mg point and Tg point, at which the slope of the graph of expansion against temperature changes sharply.

2.2.151 *Transformation Range*

Range of temperatures, below the crystallizing point, over which a particular glass structure is 'frozen in'.

2.2.152 *Transformation Temperature*

(*see* also **2.2.150**)

2.2.153 *Translucent*

Having the property of transmitting light diffusely. Through-vision may vary from almost complete to almost nil.

2.2.154 *Transparent*

Having the property of transmitting light without diffusion. Through-vision is complete.

2.2.155 *Ullage*

(*see* also **2.2.158**)

2.2.156 *Upper Annealing Temperature, 13·0 Temperature, Annealing Point, A. P.*

The temperature at which the viscosity of glass is 10^{13} poise (10^{12} Ns/m^2). At this temperature internal stress in the glass is substantially relieved in about 15 minutes.

2.2.157 *Upper Temperature of Crystallization*

The maximum temperature at which a glass may crystallize or devitrify.

2.2.158 *Vacuity, Expansion Space, Head Space, Ullage*

The free space left above the contents of a sealed container. It is expressed as a percentage of the nominal volume of the contents.

2.2.159 *Vertical Load Strength, Compressive Strength*

The axial load which a container can withstand under specified test conditions.

2.2.160 *Verticality*

The horizontal deviation of the centre of the container finish from a vertical line through the centre of the base.

2.2.161 *Water Resistance*

(*see* also **2.2.92**)

2.2.162 *Whole Article Test, Autoclave Test*

An internationally agreed procedure (reference *European Pharmacopoeia*) for measuring the resistance of the internal surface to chemical attack.

2.2.163 *Working Point, Working Temperature*

The temperature at which glass can be worked. At this temperature the viscosity is 10^4 poise (10^3 Ns/m^2).

2.2.164 *Working Range*

The temperature range over which the viscosity of the glass changes from 10^3 poise (the parison temperature) through 10^4 poise (the working temperature) to 10^6 poise, at which viscosity the glass will retain the shape into which it has been formed.

SECTION III

2.3 Types of Glass, Types of Containers and Parts of Containers

a) Type of Glass

2.3.1 *Glass*

An inorganic material obtained by fusion of raw materials — mainly sand, limestone and soda ash — which is homogeneous and isotropic. The fused mass is cooled down at a rapid and controlled rate, essentially without crystallization in the case of transparent, colourless or coloured glass, but with crystallization or phase separation in the case of opaque or translucent glass. The physical and chemical properties of glass is entirely different from those of the constituent materials.

2.3.2 *Actinic Green Glass*

An emerald green, soda-lime-silica glass, often used for making poison bottles.

2.3.3 *Amber Glass, Amber-Yellow Glass*

Brown coloured glass varying in shade from a light yellowish-brown to a deep reddish-brown.

2.3.4 *Amber-Yellow Glass*

(*see* also **2.3.3**)

2.3.5 *Blown Glass*

Glass articles shaped by air pressure.

2.3.6 *Blue Glass, Cobalt Glass*

A soda-lime-silica glass which has been coloured by the addition of cobalt oxide to the batch mixture.

2.3.7 *Cobalt Glass*

(*see* also **2.3.6**)

2.3.8 *Flint Glass, White Flint Glass*

A term used for colourless, transparent, soda-lime-silica glass.

2.3.9 *Green Glass*

A soda-lime-silica glass which has been coloured by adding chromium and/or iron compounds to the batch mixture. The colour may vary from bluish-green to yellowish-green.

2.3.10 *Half-White Glass*

(*see* also **2.3.15**)

2.3.11 *Lime-Soda Glass*

(*see* also **2.3.18**)

2.3.12 *Milk Glass*

A white, opaque glass.

2.3.13 *Opal Glass, Opaque Glass*

Translucent or completely opaque glass which may be white or coloured.

2.3.14 *Opaque Glass*

(*see* also **2.3.13**)

2.3.15 *Pale Glass, Half-White Glass*

Glass having a light green colour.

2.3.16 *Soda Glass*

A glass in which the major or only alkali is sodium oxide.

2.3.17 *Soda-Lime Glass*

(*see* also **2.3.18**)

2.3.18 *Soda-Lime-Silica Glass, Soda-Lime Glass, Lime-Soda Glass*

Glass in which the major constituents, silica soda and lime, form about 96 percent of the composition.

2.3.19 *Translucent Glass*

Glass which transmits light diffusely; through-vision may vary from almost complete to almost nil. Diffusiveness may be produced by a suitable treatment of the surface of clear glass or by the addition of crystallizing agents to the batch mixture.

2.3.20 *White Flint Glass*

(*see* also **2.3.8**)

b) Types of Containers

2.3.21 *Belshazzar*

A wine bottle with a capacity of 16 reputed quarts (approximately 12 litres).

2.3.22 *Bottle*

A narrow-necked glass container.

2.3.23 *Cannon*

A plain, round bottle of comparatively heavy weight usually required in capacities of 14 ml, 25 ml, or 55 ml (approximately 0·5, 1 or 2 fluid ounces respectively) and used mainly in the flavouring essence trade.

2.3.24 *Carboy*

A large, narrow-necked glass container, usually balloon shaped but sometimes cylindrical, used to contain acids, solvents, corosives and other liquids and having a capacity of 22·5 litres (5 gallons) or more.

2.3.25 *Container*

A general term applied to glass bottles and jars.

2.3.26 *Demijohn*

A narrow-necked wine or spirits container with a capacity of more than 9 litres (2 gallons).

2.3.27 *Jar*

A wide-mouthed glass container.

2.3.28 *Jeroboam*

A wine bottle with a capacity of approximately 3 litres (4 reputed quarts).

2.3.29 *Multi-trip Container*

A container with sufficient physical and chemical strength characteristics, which enable it to be used many times.

2.3.30 *Nip*

A small bottle used for mineral water (approximately 100-ml capacity).

2.3.31 *Single-trip Container*

A container which has been designed to have strength characteristics appropriate to a single use, that is, it must not be refilled.

2.3.32 *Split*

A mineral water bottle with a capacity of 180 ml.

2.3.33 *Winchester*

A round bottle used mainly for the packing of chemicals.

c) Parts of Containers

2.3.34 *Back Ring*

(*see* also **2.3.58**)

2.3.35 *Base Bottom Punt*

The bottom of a container, excluding the insweep.

2.3.36 *Base Codes*

(*see* also **2.3.79**)

2.3.37 *Base Marking*

(*see* also **2.3.79**)

2.3.38 *Base of Neck, Root of Neck*

The junction of the neck and the shoulder of a container.

2.3.39 *Bead, Beaded Finish, Reinforcing Ring*

A pronounced annular protrusion at the lower part of the finish.

2.3.40 *Beaded Finish*

(*see* also **2.3.39**)

2.3.41 *Beadless Finish*

A finish without a bead,

2.3.42 *Body*

The part of a container between the shoulder and the insweep.

2.3.43 *Bore 'Corkage'*

The neck opening.

2.3.44 *Bottom*

(*see* also **2.3.35**)

2.3.45 *Bottom Mark*

(*see* also **2.3.38**)

2.3.46 *Choke*

The position in the bore where the smallest internal dimension occurs.

2.3.47 *Collar*

The part of the finish which is threaded in R/3 Continuous Threaded Finish.

2.3.48 *Corkage*

A colloquialism for bore.

2.3.49 *Cork-Mouth Finish*

A finish designed to take a cork.

2.3.50 *Crown Finish*

A finish designed to take a crown closure.

2.3.51 *Embossing*

Raised markings on the outer surface of a container.

2.3.52 *Enamel Label*

A fired-on label made from enamel.

2.3.53 *External Screw*

(*see* also **2.3.54**)

2.3.54 *External Screw Thread, External Screw*

A screw thread on the outside of the finish.

2.3.55 *External Screw Thread Finish*

A mouth having a thread on its outer surface.

2.3.56 *Finish Ring*

The top part of the neck of a container made to accept the closure (*see* also **2.3.87**).

2.3.57 *Heel*

(*see* also **2.3.61**)

2.3.58 *Holding Ring, Hold-up Ring, Transfer Ring Back Ring, Ring Collar*

A beaded ring to facilitate transference of the container.

2.3.59 *Hold-up Ring*

(*see* also **2.3.58**)

2.3.60 *Indent, Locating Indenting (Second Definition Only)*

a) depression in the outside of the finish to take a swing-stopper wire.

b) A depression in the body used for positioning during labelling or printing.

2.3.61 *Insweep Heel*

The inward curved or tapered portion of container which joins the lower part of the body to the base.

2.3.62 *Internal Screw*

(*see* also **2.3.63**)

2.3.63 *Internal Screw Thread, Internal Screw*

A screw thread in the base of a bottle or jar.

2.3.64 *Knurling*

(*see* also **2.3.90**)

2.3.65 *Label Panel*

A recess in the body of a container to take a label.

2.3.66 *Lip*

The edge of the mouth of a container.

2.3.67 *Locating Indent*

(*see* also **2.3.60**) (second Definition only).

2.3.68 *Locating Pip, Locating Lug, Locating Notch*

A protrusion or depression on a container used for positioning during manufacture, labelling or printing.

2.3.69 *Locking Rim*

The parting line at the lower end of locking ring under which the crown is crimped.

2.3.70 *Locking Ring*

Part of the finish of a container for securing a closure in position.

2.3.71 *Locking Ring Height*

The distance between the sealing surface at the top of the crown neck finish and the locking rim.

2.3.72 *Locking Ring Profile*

The outer profile of locking ring, shadowgraphed on a profile projector.

2.3.73 *Murgatroyd Belt*

A circumferential band of sudden change in wall thickness at the interior of the wall, located at about one third of bottle height measured upward from the bottom. This is generally characteristic of all conventional blow and blow processes.

2.3.74 *Neck*

The part of a container between the finish and the shoulder. The neck has the following type of finishes:

RSPP Finish	Roll Seal Pilfer-proof Finish
RSNP Finish	Roll Seal Non-pilfer-proof Finish
R/3 Finish	Continuous Thread Finish for Pre-Threaded Metal Screw Caps
Crown Finish	Non-threaded Finish for Crown Cork

2.3.75 *Omnia Finish*

A finish on jars designed to take a large crimped-on closure.

2.3.76 *Pilfer-proof Collar*

A band around the finish of a container, below the screw-thread, and over which a pilfer-proof closure is crimped.

2.3.77 *Pilfer-proof Finish*

A finish designed to take a closure which needs to be snapped before it can be opened.

2.3.78 *Punt*

(*see* also **2.3.35**)

2.3.79 *Punt Codes, Base Codes, Base Markings, Bottom Mark*

Identification marks embossed on the base.

2.3.80 *Push-up*

(*see* also **2.3.81**)

2.3.81 *Pushed Punt, Push-up, Push(ed) Up Bottom*

A base shaped to form a concavity.

2.3.82 *Pushed-Up Bottom*

(*see* also **2.3.81**)

2.3.83 *Ring*

(*see* also **2.3.56**)

2.3.84 *Ring Collar*

(*see* also **2.3.58**)

2.3.85 *Roll-on Finish*

A finish designed to take an aluminium rolled-on closure.

2.3.86 *Root-of Neck*

(*see* also **2.3.38**)

2.3.87 *Sealing Ledge*

The protruding band at the lower extremity of the thread in RSSP Finish. Also known as glass finish pilfer-proof band.

2.3.88 *Sealing Surface*

The portion of the ring which makes contact with the sealing gasket or liner of a closure (*see* also **2.3.56**).

2.3.89 *Shoulder*

The curved or sloping part of a container between the neck and the body.

2.3.90 *Stippling Knurling*

A pattern of pips or bars embossed on the outer surface of a container.

2.3.91 *Swing-Stopper Finish*

A finish designed to take a swing-stopper, that is, a closure in which the stopper is attached to the finish by means or articulated rigid wires.

2.3.92 *Transfer Ring*

An optional circular bead below the sealing ledge as in RSPP finish or a circular bead below the thread as in RSPP and R/3 finishes which helps to transfer the hot container to the annealing lehr.

2.3.93 *Tucking Surface*

The flat lower surface of the sealing ledge on RSPP Finish under which the pilfer-proof band of RSPP closure is tucked in.

2.3.94 *Turn-off Crown Finish*

A finish designed to take a crown closure which can be unscrewed.

2.3.95 *Twist-off Finish*

A large diameter finish with lugs.

SECTION IV

2.4 Defects

NOTE — In the description of seed, bubbles and blisters sizes have been given to indicate the distinctions recognised in current practice. They are, however, only approximate.

2.4.1 *Air Line, Hair Line*

Greatly elongated bubble (> 25 mm), of small cross section in glass. Hair line is usually used only to describe the finest of these bubbles.

2.4.2 *Bad Baffle Mark*

A pronounced baffle mark on the bottom of a container.

2.4.3 *Bad Colour*

Deviation from intended colour.

2.4.4 *Bad Distribution, Uneven Distribution*

Deviation from the intended distribution of wall thickness.

2.4.5 *Badly Annealed, Bad Annealing*

State of an article when excessive stresses remain after annealing.

2.4.6 *Baffle Mark*

Mark or seam on a bottle, resulting from a mould joint between blank mould and baffle plate.

2.4.7 *Batch Stone*

Incompletely dissolved batch material.

2.4.8 *Belt Marks, Chain Marks*

Imprint left on an article by the lehr belt or machine conveyor belt.

2.4.9 *Bent Finish, Crooked Finish*

A finish which has a bent or crooked appearance.

2.4.10 *Bent Neck*

A neck which is tilted.

2.4.11 *Bent Ring*

A ring which is tilted or cocked to one side.

2.4.12 *Bird Cage, Birdswing, Chicken Boost*

A thread of glass across the inside of a bottle.

2.4.13 *Bird Swing*

(*see* also **2.4.12**)

2.4.14 *Black Speck*

Black grains coming from mould equipment or impurities in the raw materials.

2.4.15 *Black Spots*

Small black specks in the container.

2.4.16 *Blackening*

Reduction of metallic compounds to metal.

2.4.17 *Blank Seam, Blank Mould Seam*

A second seam other than blow mould seam extending over the whole height of the wall and caused by formation of a seam on the blank, with which the finish mould seam does not coincide. The seam on the blank is due to the blank mould not being properly closed.

2.4.18 *Blibe, Blib, Elongated Bubble*

An elongated bubble between 1 mm and 5 mm long.

2.4.19 *Blister*

An elongated bubble usually near the surface, with minimum dimension greater than 2 mm.

2.4.20 *Blob*

(*see* also **2.4.138**)

2.4.21 *Bloom Sulphur Bloom*

A surface film on a glass container which may be accidentally or deliberately produced during the annealing process, or it may result from atmospheric attack. If produced during annealing, it is called sulphur bloom and is readily soluble in water.

2.4.22 *Blow Mould Seam*

Prominent seam mark resulting from defective blow moulds or moulds not being properly closed.

2.4.23 *Blown Away*

Deficiency of glass in the neck of a bottle.

2.4.24 *Body Tear, Bottom Tear*

Tears which can occur with any orientation in the body or the bottom.

2.4.25 *Bottom Check*

Small checks which occur on or near the rounded part of the bottom contact surface.

2.4.26 *Bottom Tear*

(*see* also **2.4.24**)

2.4.27 *Breaking Off of Base*

Spontaneous breaking off of the base of a container.

2.4.28 *Brittle Glass*

A glass having excessive fragility amounting to a fault.

2.4.29 *Broken*

Where a piece of glass has actually broken away from the main body of the glass, or is about to break away, because a split has been greatly extended, as in the lehr, for example.

2.4.30 *Broken Blister*

(*see* also **2.4.33**)

2.4.31 *Broken Finish*

A finish which has cracks or actual pieces of glass broken out of it.

2.4.32 *Broken in Lehr*

Very large splits developed in the annealed lehr to the point where a piece of glass breaks away.

2.4.33 *Broken Seed, Broken Blister*

A seed near to the glass surface which has been broken.

2.4.34 *Broken Ware*

A ware which is cracked or broken into pieces.

2.4.35 *Bruise, Star Checks*

Localized surface cracks, often star-shaped always caused by an impact.

2.4.36 *Bruise Checks*

Fine and shallow checks, which appear on the body of a container.

2.4.37 *Bruised Body*

Where the body surface has been damaged by impact.

2.4.38 *Bruised Bottom*

Where the surface of the bottom has been damaged by impact.

2.4.39 *Bruised Ring*

Where the ring surface has been damaged by impact.

2.4.40 *Brush Marks, Scrub Marks*

Fine parallel lines of laps running vertically on the external surface, similar in size and spacing to those left by a paint brush.

2.4.41 *Bubble*

A gas-filled cavity in glass.

2.4.42 *Bulged*

Where a part of a container has bulged outwards after the forming operation.

2.4.43 *Bulged Bottom*

A bulged area, usually near the junction of the side-wall and the bottom, caused by the bottle squatting at this point.

2.4.44 *Bulged Finish, Bulged Ring*

A finish blow out, so that the closure will not fit.

2.4.45 *Bulged Panel(s)*

Convex deformation of one or more of the panels; the converse to sunken panels.

2.4.46 *Bulged Ring*

(*see* also **2.4.44**)

2.4.47 *Bulged Side(s)*

Bulging outwards of the wall(s) of a container.

2.4.48 *Bull's Eye Lens*

Variation in thickness producing a convex lens, often in the base.

2.4.49 *Burnt Mould*

Discoloration or dulling die to local overheating of the mould.

2.4.50 *Cat's Eye*

A crescent-shaped blister.

2.4.51 *Cat Scratch*

Surface imperfections resembling the marks of a cat's claw.

2.4.52 *Chain Marks*

(*see* also **2.4.8**)

2.4.53 *Channel*

A fine groove across on the sealing surface causing capillary liquid leakage or loss of pressure or vacuum.

2.4.54 *Check, Skin Crack*

A fine short surface crack caused by contact between hot glass and a colder surface. Usually a crack which is short but relatively deep.

2.4.55 *Check Under Finish, Cracked Under Ring*

Surface cracks which occur on or near the parting line between the neck and the finish of a container.

2.4.56 *Check Starting from an Edge Vent*

A small crack running into the glass from an edge.

2.4.57 *Checked*

A part of a container which bears checks.

2.4.58 *Checked Body*

A check or checks appearing anywhere on the body of a container.

2.4.59 *Checked Bottom*

A check or checks appearing anywhere on the bottom of a container.

2.4.60 *Checked Finish*

A finish which has a light surface crack in the threads or in the middle of the finish.

2.4.61 *Checked Ring*

A check or checks appearing anywhere in the ring of a container.

2.4.62 *Chicken Boost*

(*see* also **2.4.12**)

2.4.63 *Chill Mark, Wrinkle Flow Line*

Wrinkles, usually concentric, occurring on the surface when the mould is too cold.

2.4.64 *Chip Shell*

A small fragement of glass broken from the surface by impact.

2.4.65 *Chipped*

The loss of a small fragment of glass from anywhere on the container but which has not caused it to break.

2.4.66 *Chipped Body*

Chips occurring from the body of a container.

2.4.67 *Chipped Bottom*

Chips occuring from the bottom of a container, including chips from embossing.

2.4.68 *Chipped Finish, Chipped Ring*

A finish from which a small section is broken on the top or side.

2.4.69 *Chipped Ring*

(*see* also **2.4.68**)

2.4.70 *Chipped Sealing Surface*

A chip broken away from the sealing surface.

2.4.71 *Chipping of Corner*

The loss of small fragements from a corner by mechanical action.

2.4.72 *Chipping of Rim*

The loss of small fragments from a rim by mechanical action.

2.4.73 *Choke, Constriction, Choked Bore, Choked Neck*

A constriction in the bore of the neck (*see* also **2.4.237**).

2.4.74 *Cold Check and Lehr Broken*

A ware found completely broken on the lehr.

2.4.75 *Cold Mould*

An extreme case of corrugated surface together with uneven glass distribution due to moulds not being at the correct temperature.

2.4.76 *Concave Bottom*

A base showing abnormal concavity.

2.4.77 *Conicity Taper*

Conical taper of a container part which should be a uniform cylinder.

2.4.78 *Contaminated*

Bottles containing any foreign substances likely to contaminate the product.

2.4.79 *Convex Bottom*

A base showing abnormal convexity.

2.4.80 *Cord, Heavy Cord*

A relatively thick and very obvious thread of glass, sometimes standing proud on the surface of the finished object.

2.4.81 *Corkage Check*

A vertical surface check located on the inside of the finish.,

2.4.82 *Corrosion*

Chemical attack of the surface.

2.4.83 *Corrugated*

A rough, irregular surface which can be felt as the bottle is rotated.

2.4.84 *Cracked Under Ring*

(*see* also **2.4.55**)

2.4.85 *Crizzle, Skin Crack*

An imperfection in the form of a multitude of fine surface fractures.

2.4.86 *Crooked Finish*

(*see* also **2.4.9**)

2.4.87 *Curved Sealing Ledge*

The lower end of the sealing ledge corner in RSPP Finish which is curved beyond specified radius. This would lead the pilfer-proof band of RSPP cap to come off without evidence of tampering during the opening of the seal.

2.4.88 *Cut-off Mark*

(*see* also **2.4.216**)

2.4.89 *Cut-off Star*

(*see* also **2.4.216**)

2.4.90 *Danny Neck, Tear on Neck*

a) A small surface section of glass torn from the neck of a bottle.

b) A special term denoting a horizontal check or split at the root of the neck.

2.4.91 *Dapple, Dappled Appearance*

Irregularity of the inner or outer surface of a bottle.

2.4.92 *Depression Hollow, Suck-in*

A small hollow, resulting from contraction of those parts of the glass which were hottest when the article was removed from the mould.

2.4.93 *Devitrification*

Crystallization in glass, with progressive loss of transparency.

2.4.94 *Devitrification Stone*

Stone produced by devitrification of the glass.

2.4.95 *Dim Design*

Imperfect reproduction of design due to wear of the mould or poor contact between glass and mould.

2.4.96 *Dimming*

Thin white surface deposit, resulting from an attack more severe than that causing bloom and which cannot be removed by washing with water.

2.4.97 *Dipped Ring*

A severe dip or depression at one place on the sealing surface.

2.4.98 *Dirt*

Foreign matter sticking to the glass.

2.4.99 *Dirty Finish, Rough Finish*

a) A finish on the surface which is not smooth and glossy because the mould was dirty.

b) A finish which has a scaly appearance and which may even have black spot on it.

2.4.100 *Dirty Metal*

A ribbon of blisters in the body of the glass running down one side of the container.

2.4.101 *Dirty Mould*

Mould dope contamination on the glass surface; it can usually be rubbed off.

2.4.102 *Dirty Neck*

Mould dope contaminating on the neck, it can usually be rubbed off.

2.4.103 *Dirty Punt*

A scaly or rough appearance of the punt.

2.4.104 *Dirty Ring*

Mould dope contaminating the ring; it can usually be rubbed off.

2.4.105 *Dirty Ware*

A ware which has carbon or dirty deposits on it.

2.4.106 *Distortion* (*Optical*)

A optical effect due to uneven wall thickness, uneven surfaces or inhomogeneities in the glass.

2.4.107 *Dope Mark*

Dope mark on the surface, being the residual of mould lubricant.

2.4.108 *Droplet*

(*see* also **2.4.252**)

2.4.109 *Dusty Seed*

Very fine seed, usually widely distributed.

2.4.110 *Elongated Blister*

(*see* also **2.4.111**)

2.4.111 *Elongated Bubble, Elongated Blister*

Gaseous inclusion, may be several centimetres long, produced by abnormal or accidental release of gas in the hot glass.

2.4.112 *Etched*

Weathered so that the surface is rough.

2.4.113 *Fade*

An attack on the glass surface, causing an oily or whitish appearance.

2.4.114 *Feather*

A cluster of fine seed, caused by the deposition of foreign matter on the hot glass during forming.

2.4.115 *Fin, Flash Flush, Overflush, Overpress*

A projection of glass caused by the entry of glass into a seam between mould parts during forming.

2.4.116 *Fine Seed*

Bubbles which are less than 0·2 mm in diameter.

2.4.117 *Fire Cracks*

Cracks in ware caused by local temperature shock.

2.4.118 *Flake*

A film detached from the inner surface of a container as a result of chemical attack.

2.4.119 *Flaking*

Peeling of a skin from the surface as a result of corrosion, sometimes leaving the glass iridescent when dried.

2.4.120 *Flanged Bottom*

An offset bottom of a bottle caused by a bad match between the body mould and bottom plate.

2.4.121 *Flanged Finish Overpress*

An annular fin of glass projecting from the finish, most often from its inside edge.

2.4.122 *Flanged Ring*

An excessive horizontal flange at the outer or inner top edge of the finish.

2.4.123 *Flash*

(*see* also **2.4.115**)

2.4.124 *Flat Spot*

A flat region on a surface which should be curved.

2.4.125 *Flow Line*

(*see* also **2.4.63**)

2.4.126 *Flush*

(*see* also **2.4.115**)

2.4.127 *Fold*

(*see* also **2.4.153**)

2.4.128 *Fold in Bottom*

A severe fold, usually concentric, with the baffle mark on the bottom of a container. The length of the fold normally extends up to one quarter of the circumference of the container.

2.4.129 *Freak*

A bottle which is so badly deformed that it will not pass through a normal filling line, or a bottle which is obviously malformed.

2.4.130 *Frosted Finish*

A finish with areas of numerous checks, particularly on the lip, which thus appears frosted.

2.4.131 *Furnace Inclusion*

All inclusion other than stones and black specks.

2.4.132 *Fused Glass Inside*

A piece of glass which has dropped inside a container whilst hot and stuck to the surface.

2.4.133 *Glass Dust, Glass Inside, Small Glass*

Small particles of glass adhering to the surface, usually internal.

2.4.134 *Glassy Inclusion*

An inclusion of glass of unspecified type which affects the isotropy of the glass and thus locally modifies its properties, especially the optical properties.

2.4.135 *Grey Blibe*

An elongated inclusion of sodium sulphate.

2.4.136 *Hackle Marks*

Fine ridges on the fracture surface of glass parallel to the direction of propagation of the fracture.

2.4.137 *Hair Line*

(*see* also **2.4.1**)

2.4.138 *Hang-up Blob*

A localized thick section at a point on the internal surface of the body.

2.4.139 *Heavy Bottom (Shoulder, Panels or Corner)*

An excessively thick part of a container.

2.4.140 *Heavy Seed*

A group of very small bubbles, less than 0 2 mm diameter, clustered together.

2.4.141 *Heel Tap*

(*see* also **2.4.279**)

2.4.142 *Heterogeneity*

(*see* also **2.4.147**)

2.4.143 *High Top*

A vertical flange at the inner top edge of the finish.

2.4.144 *Hollow*

(*see* also **2.4.92**)

2.4.145 *Hollow Neck*

(*see* also **2.4.23**)

2.4.146 *Hollow Ring*

A sudden and severe widening of the bore just below the entrance, not necessarily occurring all round the ring.

2.4.147 *Inhomogeneity, Lack of Homogeneity*

A defect due to there being different glass properties within a container.

2.4.148 *Iridescence, Iridising*

Interference colours caused by chemical attack on the surface, or too thick a hot-end coating.

2.4.149 *Inside Fin*

(*see* also **2.4.182**)

2.4.150 *Joint Line, Match Mark, Mitre Seam, Mould Joint, Mould Mark*

A line or seam on a container formed at the joint of two mould parts.

2.4.151 *Knot Tank Drop*

Nodular glassy inclusions, often having an attenuated tail.

2.4.152 *Ladders*

(*see* also **2.4.272**)

2.4.153 *Lap, Lap Mark, Fold*

A fold on the surface of a container.

2.4.154 *Leaky Ring*

A badly shaped bottle finish which could cause a leakage after filling.

2.4.155 *Leaner, Out-of-Shape Ware*

A container which does not stand upright on its base.

2.4.156 *Letter Checks*

Small cracks which appear in the lettering.

2.4.157 *Light Bottom, Corner, Panels or Shoulder*

An excessively thin part of a container.

2.4.158 *Line*

A fine marking on the surface of glass.

2.4.159 *Line Over Finish*

A line across the sealing surface.

2.4.160 *Loading Mark*

Vertical laps on the surface of a container, may be in the body, or neck, or both.

2.4.161 *Match Marks*

(*see* also **2.4.150**)

2.4.162 *Mismatch*

(*see* also **2.4.172**)

2.4.163 *Mixed Rings*

Bottles of the same type but with different finishes in the same pallet.

2.4.164 *Mixed Ware*

Bottles of various types in one pack.

2.4.165 *Mould Joint*

(*see* also **2.4.150**)

2.4.166 *Mould Mark*

(*see* also **2.4.150**)

2.4.167 *Mould Pull*

A sharp line on the exterior surface, caused by variation in the degree of adhesion to the mould.

2.4.168 *Neck Ring Seam*

A fin or seam of glass across the top or on the side of the finish.

2.4.169 *Not Blown Up, Unfilled, Not Blown Up in Body, Not Blown Up in Neck*

A part of an article not properly formed because the glass was not forced completely into contact with the mould during forming.

2.4.170 *Notch*

A hole left by the removal of a chip.

2.4.171 *Off-gauge Finish*

(*see* also **2.4.177**)

2.4.172 *Offset*

An imperfection resulting from linear shifting of mould equipments.

2.4.173 *Oil Mark*

Streaky discoloration, usually browny black, may be in the body of the glass.

2.4.174 *Orange Peel*

Numerous small regular point defects giving the appearance of orange peel.

2.4.175 *Out of Flatness*

(*see* also **2.4.178**)

2.4.176 *Out-of-Round*

a) Excessive ovality.
b) (*see* also **2.4.178**)

2.4.177 *Out-of-Round Finish, Off-gauge Finish*

A finish which is ovalshaped and which may be pinched or flattened.

2.4.178 *Out-of-Shape, Out-of-Flatness, Out-of-Round*

A deviation from the intended form.

2.4.179 *Out-of-Shape Ware*

(*see* also **2.4.155**)

2.4.180 *Ovality*

A deviation from a circular towards an elliptical cross-section, normally expressed as the difference between the major and minor axes.

2.4.181 *Overflush*

An excess of glass round the joint line of the finish (*see* also **2.4.115**).

2.4.182 *Overpress, Inside Fin*

A fin of glass extending from the inside edge of the finish.

2.4.183 *Parting Line*

(*see* also **2.4.150**)

2.4.184 *Patch of Crizzles*

An imperfection in the form of a multitude of crizzles.

2.4.185 *Pin Hole*

A tiny hole penetrating the whole thickness of a joint.

2.4.186 *Pinched Neck*

A neck which has been pushed or pinched.

2.4.187 *Pinched Thread*

Where the thread has been pressed inwards into the wall of the finish.

2.4.188 *Planity*

The horizontal level of the top of the finish when tested on a surface plate or suitable plate with filler gauges.

2.4.189 *Plunger Mark*

A mark on the internal surface caused by an irregularity or roughness on the plunger.

2.4.190 *Pockmarks*

Surface roughness in the form of very small protrusions.

2.4.191 *Pressure Check, Hot Check*

A fracture in the wall of the container, running from the inside to the outside surface.

2.4.192 *Prominent Blank Point*

(*see* also **2.4.193**)

2.4.193 *Prominent Joint*

A prominent mark on the outer surface of a container where the mould parts have failed to close properly.

2.4.194 *Prominent Mould Joint*

(*see* also **2.4.193**)

2.4.195 *Prominent Ring Joint*

(*see* also **2.4.193**)

2.4.196 *Reboil Bubble*

A bubble which has grown in glass after it has been refined.

2.4.197 *Refractory Stone*

A fragement of refractory.

2.4.198 *Rock*

(*see* also **2.4.200**)

2.4.199 *Rocker*

Sagged and partly convex bottom surface of the container normally observed in larger diameter bottles or jars affecting container stability in the bottling line (*see* also rocker bottom).

2.4.200 *Rocker Bottom, Rocky Bottom, Wobble, Rock-Spinner*

A deformation of the base, so that a container does not stand firmly on a flat surface.

2.4.201 *Rocky Bottom*

(*see* also **2.4.200**)

2.4.202 *Rough Finish*

Finish with rough feel resulting in high cap removal torque and abrasion of internal coating on the cap.

2.4.203 *Round Locking Rim*

A locking rim with a larger radius than specified which would affect the seal integrity.

2.4.204 *Saddle and Dip*

The sealing surface is wavy or warped with peak and trough. This could be checked by resting the jar on its sealing surface or plane surface and inserting a Feeler Gauge. Present in wide mouthed jars and could cause loss of vacuum and liquid leakage.

2.4.205 *Scale*

Flakes of metal oxide or graphite included in glass or stuck on its surface during forming caused by flaking of mould equipment.

2.4.206 *Scratch*

A score mark made by a hard body.

2.4.207 *Scrub Marks*

(*see* also **2.4.40**)

2.4.208 *Scuff Mark, Scuffing*

An area covered by fin scratches, usually due to rubbing of one piece against another.

2.4.209 *Scuffing*

(*see* also **2.4.208**)

2.4.210 *Seam or Mould on Finish*

A prominent fin of glass projecting vertically on the sealing surface or laterally on the thread of finish when two mould halves join. On the thread, it leads to high removal torque and puncturing of facing if present on the sealing surface (*see* also **2.4.193**).

2.4.211 *Seed*

A bubble between 0·2 mm and 2 mm in diameter.

2.4.212 *Settle Mark, Settle Wave*

(*see* also **2.3.72**)

2.4.213 *Settle Wave*

(*see* also **2.4.212**)

2.4.214 *Sharp Finish*

A rough finish with sharp minute protrusions.

2.4.215 *Sharp Thread*

Sharp radius at the thread crest will lead to high removal torque.

2.4.216 *Shear Mark (Feeder Fed) Cut-off Scar (Suction Fed)*

A feather-like scar apppearing on the surface of glassware caused by improper shearing.

2.4.217 *Shifted Finish*

The neck finish which is eccentric with respect to the vertical axis of the bottle.

2.4.218 *Shoulder Checks*

Surface cracks on the shoulder of the container.

2.4.219 *Siding*

Variation of wall thickness in a cross-section, usually a result of eccentricity of the internal surface.

2.4.220 *Skin Blister*

A blister, often elongated, very near the surface of the glass, possibly causing deformation of the surface.

2.4.221 *Slack Finish*

A finish which is not fully formed.

2.4.222 *Slugged Bottom*

(*see* also **2.4.279**)

2.4.223 *Smear*

A check, especially on the neck finish.

2.4.224 *Spalling*

Breaking-off of small fragments caused by internal thermal stresses, internal mechanical stresses or impact of a hard body.

2.4.225 *Spider's Web*

Surface layer of water-soluble crystals produced by atmospheric attack and forming patterns resembling spider's webs.

2.4.226 *Spike*

A projection of glass, usually very sharp, on the inside of the container. It is usually from the bottom but can also occur from the side-wall.

2.4.227 *Spinner*

(*see* also **2.4.200**)

2.4.228 *Split*

A deep crack, normally less than 6 mm long, which penetrates the glass.

2.4.229 *Split Finish, Split Ring*

A crack across the top surface of the finish extending downwards towards the neck.

2.4.230 *Splity Body*

A split in any direction in the body.

2.4.231 *Split Ring*

(*see* also **2.4.229**)

2.4.232 *Spontaneous Breaking*

Breakage or fracture occurring spontaneously and caused by internal stresses.

2.4.233 *Sticking Mark*

Small surface defect, often a matt patch, caused by local sticking of glass to mould during forming. A less severe defect than a 'tear'.

2.4.234 *Stone*

A crystalline inclusion.

2.4.235 *String*

A straight or curled line, usually resulting from slow solution of a large grain of sand or foreign material.

2.4.236 *Stringy Knot*

A stone surrounded by an envelope of glass produced by partial dissolution of the stone and generally having a tail of cord.

2.4.237 *Strong Neck*

A severe thickening of the glass at one point on the inside of the neck (*see* also **2.4.73**).

2.4.238 *Stuck, Stuck Ware*

A piece of glass, usually quite sharp, which is stuck on the outside of a container.

2.4.239 *Stuck Glass Particles*

Small glass particles stuck to the inside of a container. Most common in wide-mouth wares.

2.4.240 *Stuck Plug*

A piece of glass, usually very sharp, projecting inwards just inside the bore of a bottle.

2.4.241 *Stuck Ware*

(*see* also **2.4.238**)

2.4.242 *Suck-in*

(*see* also **2.4.92**)

2.4.243 *Sulphate Bubble, Sulphate Blister, Salt Bubble (Sulphate) Scab, Whitewash Gall*

A whitish bubble containing a deposited salt, generally sodium sulphate.

2.4.244 *Sunk*

(*see* also **2.4.246**)

2.4.245 *Sunken Shoulder*

A shoulder which is not fully blown up.

2.4.246 *Sunken Side(s), Sunk*

Bulging inwards of the wall(s) of a container.

2.4.247 *Surface Cord*

Very fine stripes on the glass surface. They can be of any length but do not show up under the strain viewer.

2.4.248 *Surface Reboil*

A film of fine bubbles appearing on the surface of an article as a result of excessive reheating or the action of gases.

2.4.249 *Swung Baffle*

The baffle mark has swung to one side and is not central to the bottom of the container.

2.4.250 *Tarnish*

A thin film of stain on the surface of the glass.

2.4.251 *Tear*

a) A place where a small fragment of glass has been torn out by sticking to hot metal.

b) A fissure, as opposed to a fracture, which is open on the glass surface. It can be of any length and variable width, but is usually wide enough to allow a fingernail to be inserted. It can always be felt, as opposed to splits, checks and crizzles which can rarely be felt, but it does not reflect light in the way that a fracture does.

2.4.252 *Tear Drop, Droplet*

A small rounded protrusion, usually on the external surface of an article.

2.4.253 *Tear on Neck*

(*see* also **2.4.90**)

2.4.254 *Tear Under Finish, Tear Under Ring*

A tear situated at the base of the finish.

2.4.255 *Thin Body, Thin Bottom, Thin Shoulder*

An area of glass which is not thick enough to enable the container to fulfil the purpose for which it was designed.

2.4.256 *Thin Corner*

A special case of a wedged bottom where the glass is so thin on one side as to warrant rejection.

2.4.257 *Thin Ware*

A container with thin sports which are below the minimum safety level.

2.4.258 *Thread*

A very fine but clearly defined cord.

2.4.259 *Tint*

A slight deviation from the intended colour, which only becomes a defect if it exceeds a certain limit.

2.4.260 *Tit*

A small protrusion on a glass article.

2.4.261 *Toed-in Finish*

(*see* also **2.4.270**)

2.4.262 *Tramp Glass*

Loose glass in a container.

2.4.263 *Under-filled Thread*

Parts of the thread is shallow and not moulded to full depth in segments. It will lead to back-off of the applied cap.

2.4.264 *Uneven Distribution*

(*see* also **2.4.4**)

2.4.265 *Unfilled Finish, Unfilled Ring*

When the top of the ring is not completely filled up on the inside.

2.4.266 *Unfilled Thread*

When the thread profile has not been formed properly.

2.4.267 *Vacuole*

(*see* also **2.4.268**)

2.4.268 *Vacuum Bubble, Vacuole*

A bubble which has grown as the glass contracted during cooling.

2.4.269 *Vent*

(*see* also **2.4.85**)

2.4.270 *Warped Finish, Toed-in Finish*

A finish which has sunk in or down locally after formation. The lip may show a depression resembling a harelip.

2.4.271 *Warped Ring*

(*see* also **2.4.276**)

2.4.272 *Washboard Ladder*

Horizontal fine laps or ripples, usually on the walls of the container.

2.4.273 *Wave*

An optical effect due to uneven glass distribution or to striae.

2.4.274 *Waviness*

Unintended waviness of internal surface producing optical distortion.

2.4.275 *Wavy Cord*

Fine, wavy, rather diffused cord(s) in process of incorporation.

2.4.276 *Wavy Ring, Warped Ring*

A undulating or warped sealing surface.

2.4.277 *Weathered*

A white deposit on the glass surface, which is insoluble in water.

2.4.278 *Weathering*

Chemical attack of the surface by natural agents in any environment.

2.4.279 *Wedged Bottom, Slugged Bottom, Heel Tap*

A base which slopes internally from one side to the other.

2.4.280 *White Bead*

Same defect as milkiness, but localized at one point or a small area on the surface.

2.4.281 *Wobbler*

(*see* also **2.4.200**)

2.4.282 *Wrong Capacity*

Capacity outside the limit laid down.

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